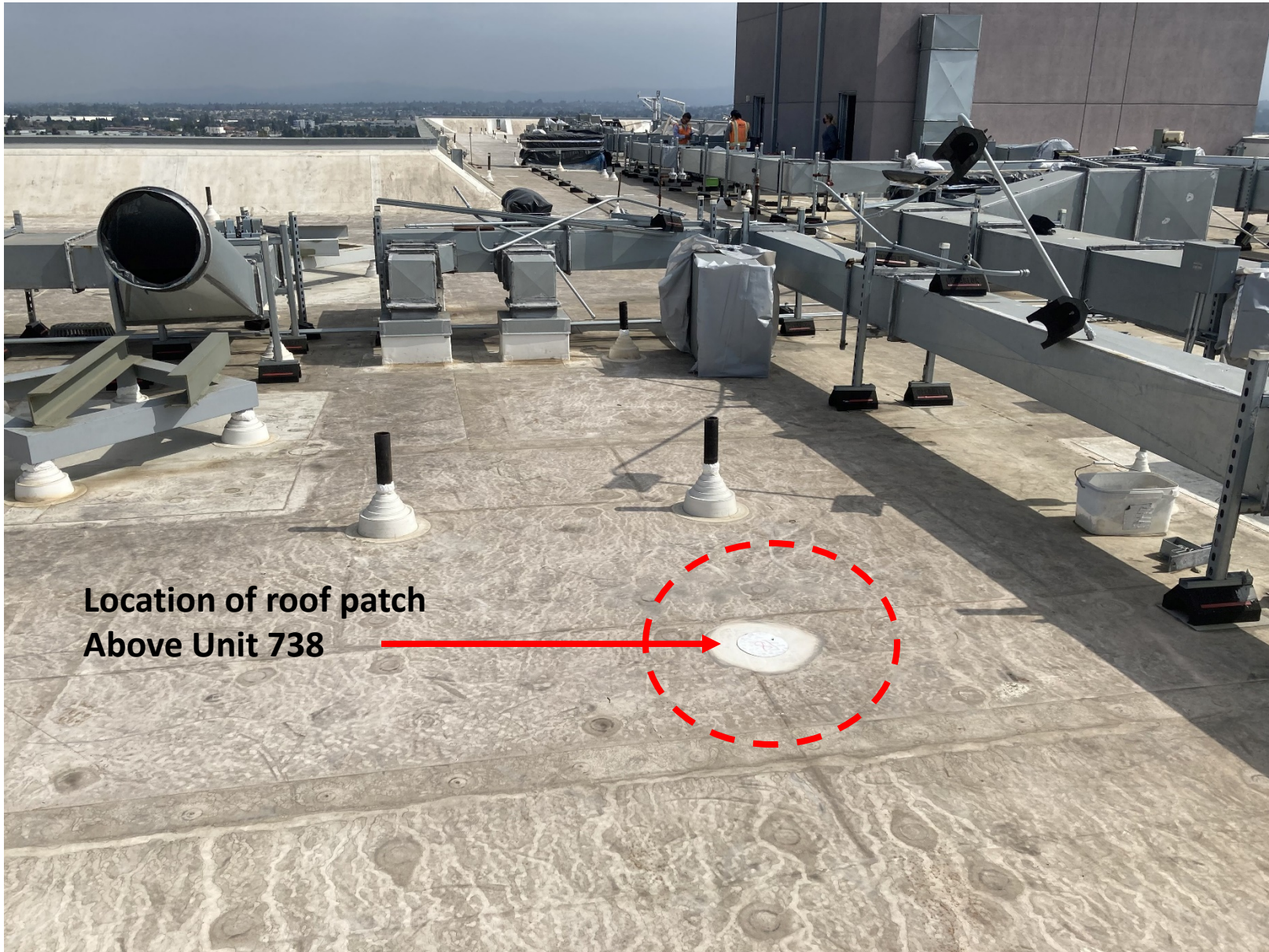


# ATTACHMENT 18



**Location of roof patch  
Above Unit 738**



# ATTACHMENT 19



# ATTACHMENT 20





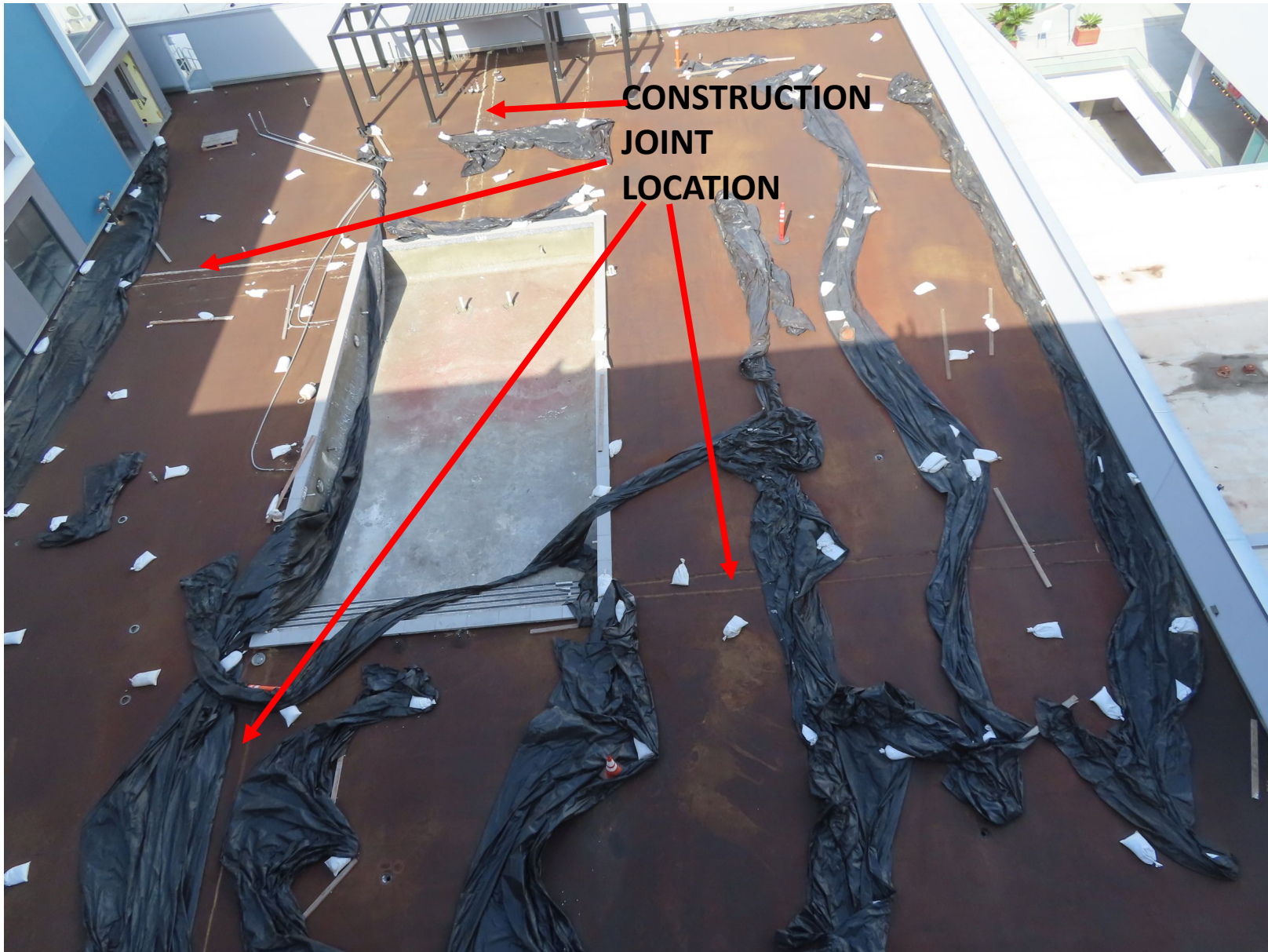
# ATTACHMENT 20

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# ATTACHMENT 21





# ATTACHMENT 21

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**CONSTRUCTION JOINT LOCATION**



# ATTACHMENT 22





# RedGuard® Waterproofing and Crack Prevention Membrane

## 1 Product Name

RedGuard® Waterproofing and Crack Prevention Membrane

## 2 Manufacturer

Custom Building Products  
Technical Services  
10400 Pioneer Boulevard, Unit 3  
Santa Fe Springs, CA 90670  
Customer Support: 800-272-8786  
Technical Services: 800-282-8786  
Fax: 800- 200-7765  
Email: [contactus@cbpmail.net](mailto:contactus@cbpmail.net)  
[custombuildingproducts.com](http://custombuildingproducts.com)



## Limitations to the Product

- Do not apply to surfaces that may drop below 40°F (4°C) within 72 hours of application.
- Do not apply on existing concrete slabs on-ground with relative humidity levels over 85%. Contact Technical Services for other conditions for additional information.
- Do not apply over wet surfaces or surfaces subject to hydrostatic pressure.
- Do not use to relocate tile joints over saw cuts/control joints in concrete slabs instead use Crack Buster® Pro Membrane. Contact Technical Services for detailed instructions to waterproof
- Do not use as an adhesive.
- Do not use as a wear surface; the membrane must be covered with tile or other permanent flooring.
- Do not use solvents in conjunction with the membrane

## Packaging

- 1 gallon (3.78 L) pail
- 3.5 gallon (13.2 L) pail

## 3 Product Description

A ready-to-use elastomeric waterproofing membrane for both commercial and residential tile and stone application. Suited for interior and exterior substrates, RedGuard® creates a continuous waterproof membrane barrier with outstanding adhesion and reduces crack transmission in tile and stone floors. It bonds directly to clean metal drains, PVC, stainless steel and ABS drain assemblies and can be used as a slab-on-grade moisture vapor barrier under all types of floor coverings.

### Key Features

- Ready to use - Roll it on
- Quick dry formula
- Listed with IAPMO for use as a shower pan liner

### Suitable Substrates

- Concrete, cement mortar, masonry
- Cement Backerboard
- Exterior Plywood and OSB (interior, dry areas only)
- Exterior Decks - Contact Technical Services
- Post-Tension Concrete - Contact Technical Services
- Lightweight Concrete (min. 2000 psi compressive strength)
- Gypsum-Based cement topping (min. 2000 psi compressive strength)
- Existing ceramic tile and resilient flooring
- Floor heating systems - contact Technical Services

### Composition of Product

RedGuard® is a liquid-applied elastomeric waterproofing material that cures to form a monolithic membrane.

### Benefits of Product in the Installation

- Easy to use and can be applied by roller, trowel or airless sprayer
- Rated for extra heavy duty service
- Reduces curing time with quick-dry formula
- Isolates cracks to 1/8" (3 mm)
- Suitable for waterproofing pools, spas and water features
- Meets Uniform Plumbing Code specifications for use as a shower pan liner

## 4 Technical Data

### Applicable Standards

American National Standards Institute (ANSI) ANSI A108.01, A108.17, A108.13, A118.10 and A118.12 American National Standards for the Installation of Ceramic Tile ASTM International (ASTM)

- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester
- ASTM D638 Standard Test Method for Tensile Properties of Plastics

Tile Council of North America (TCNA) TCNA Handbook for Ceramic Tile Installation, TCNA Method EJ171, F125 & F125A





# RedGuard® Waterproofing and Crack Prevention Membrane

## Approvals

RedGuard® has tested and complies with Uniform Plumbing Code and International Plumbing Code standards for use as a shower pan liner per IAPMO Research and Testing, Inc., File No. 4244. RedGuard® has tested and complies with International Building Code (IBC), International Residential Code (IRC) and International Plumbing Code (IPC) standards for water resistance per ICC Evaluation Service, ESR1413. RedGuard® conforms to "safing material" requirements established by the Wisconsin Administrative Code, Chapter Comm 84.30-6f.



## Technical Chart

| Property                             | Test Method                                     | Requirement                              | Typical Results                     |
|--------------------------------------|---|--|-------------------------------------|
| Fungus Resistance                    | A118.10 Section 4.1                             | No Growth                                | Pass                                |
| Seam Strength                        | A118.10 Section 4.2                             | > 8 lbs/" width                          | 16 lbs/2" (7.3 kg/5 cm) width       |
| Breaking Strength                    | A118.10 Section 4.3                             | > 170 psi                                | 484 psi (34 kg/cm²)                 |
| Dimensional Stability                | A118.10 Section 4.4                             | +/- 0.7%                                 | 0.05%                               |
| Waterproofness                       | A118.10 Section 4.5                             | No Water Penetration                     | Pass at 25 mils dry                 |
| Steam Shower Requirement             | ASTM E-96 Method E                              | < 0.5 perms                              | 0.35 perms at 30 mils dry           |
| Shear Bond Strength to Cement Mortar |   |  |                                     |
| Four Week Shear Strength             | A118.10 Section 5.5                             | > 50 psi                                 | 267 psi (18.8 kg/cm²)               |
| Shear Strength After Water Immersion | A118.10 Section 5.4                             | > 50 psi                                 | 89 psi (6.3 kg/cm²)                 |
| System Crack Resistance              |   |  |                                     |
| Standard Performance                 | A118.12 Section 5.4                             | > 1/16" and < 1/8"                       | Pass at 30 mils dry                 |
| High Performance                     | A118.12 Section 5.4                             | > 1/8"                                   | Pass at 30 mils dry                 |
| Point Load                           | A118.12 Section 5.2                             | > 1000 lbs                               | > 1000 psi                          |
| Robinson Test ASTM C627              | A118.12 Section 5.3                             | As Specified                             | 14 Cycles; Extra Heavy              |
| VOC Content                          | EPA Method 24                                   | SQAQMD Rule 113/CARB SCM 2019 (<100 g/L) | <5 g/L (0% CARB VOC)                |
| VOC Emissions                        | Complies with CA Section 01350 & CDPH V1.2-2017 |  | Compliant (TVOC= 0.5 mg/m3 or less) |

## Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices. Use of this product may contribute to LEED® certification.

## 5 Instructions

### General Surface Prep

**USE CHEMICAL-RESISTANT GLOVES, such as nitrile, when handling product.**

Exterior and wet areas must have proper sloping to drains without divots that would affect drainage. All surfaces must be structurally sound, clean, dry and free from contaminants that would prevent a proper bond. Newly applied concrete must be troweled smooth but not burnished (highly polished) so as not to absorb water and cured for 28 days. Most existing surfaces are to be scarified and flattened, and all defects must be repaired. Dormant cracks exceeding 1/8" (3 mm) should be treated in accordance with TCNA F125 or TCNA F125A.

### Bonding to Lightweight Cement and Gypsum Surfaces

Lightweight or gypsum-based materials must obtain a minimum of 2000 psi (13.8 MPa) compressive strength at the recommended cure time. The underlayment must be sufficiently dry and properly cured to the manufacturer's specifications for permanent, non-moisture permeable coverings. Surfaces to be covered must be clean, structurally sound and subject to deflection not to exceed the current ANSI standards. Expansion joints must be installed in accordance with local building codes and ANSI/TCNA guidelines. Prime all surfaces to receive RedGuard® with properly applied manufacturer's sealer or with a primer coat of RedGuard®, consisting of 1 part RedGuard®, diluted with 4 parts clean, cool water. In a clean pail, mix at low speed to obtain a lump-free solution. For substrates exhibiting high absorption rates - apply the diluted mixture of water and RedGuard® (4-1) using a clean, fine head broom to scrub in the primer solution. Keep the surface of the substrate wet for at least 15 minutes during application to ensure adequate and even distribution of primer coat. Apply the diluted RedGuard® primer coat to the floor at a rate of 300 ft/gallon (7.5 M/L). Allow 1st coat/application time to dry before floor patch or other flooring material applications begin. For tile installations bonding directly to the substrate; strongly recommended to apply at least one full coat of "undiluted" RedGuard® to the "dry" primed area and allow to dry completely before tile installation work is to begin.

### Vapor Barrier

When used as a vapor barrier, apply one full coat (70 sq. ft. per gallon) where vapor transmission is up to 8 lbs. per 1000 sq. ft. per day and two full coats (70 sq. ft. per gallon each coat) where vapor transmission is up to 12 lbs. per 1000 sq. ft. per day. Refer to ASTM F1869 for more information on Vapor Transmission Testing.



# RedGuard® Waterproofing and Crack Prevention Membrane

## Movement Joint Placement

Do not bridge joints designed to experience movement. Carry these types of joints through the tile work. Clean the joint and install an open or closed cell-backer rod to the proper depth, as outlined in the Tile Council Handbook, EJ171. Next compress sealant into the joint, coating the sides and leaving the sealant flush with the surface. When the sealant is dry, place bond-breaker tape over the joint. Apply a minimum 3/64" (1.2 mm) of RedGuard® over the joint and the substrate, following the instructions provided previously. Install the tile work onto the membrane, but do not bridge the joint. After the tile work is properly set, follow the architect's and manufacturer's instructions to fill the joint with a specified color sealant.

## Application of Product

### SHOWER RECEPTORS INSTALLATION

[Mortar Bed over Framed Structures – B414](#)

[Cement Backerboard Walls – B415](#)

[Surface Bonded Waterproofing – B421](#)

Download the illustrated installation details by clicking on the link above or go to CustomBuildingProducts.com/TSD, select "Tile" as the installation type and select the appropriate illustrated TCNA detail by number (example: B414).

### RedGuard at Drains

Drains should have a clamping ring with open weep holes for thin-set application. Apply the membrane to the bottom of the flange. The drain should be fully supported, without movement, and should be even with the plane of the substrate. Apply the RedGuard membrane around drain. Embed a 12" x 12" (30 x 30 cm) fiberglass mesh into the membrane, making sure it does not obstruct the drainage weep holes. Then apply an additional coat of the membrane and smooth. After curing, clamp the upper flange onto the membrane and tighten. Use a silicone caulk around the flange where the membrane and the upper flange make contact. A toilet flange can be handled in much the same manner.

### RedGuard® as Crack Prevention Membrane

Force RedGuard® into cracks with the flat side of the trowel, roller or brush. Using a 3/16"-1/4" (5-6 mm) V-notch trowel or 3/8" (9.5 mm) rough textured roller. Use the flat side of the trowel and flatten the ridges to form a continuous, even coat of material. The membrane should extend a minimum of the diagonal measurement of the tile beyond both sides of the crack. Gaps between plywood sheets and where floors meet walls must also be prefilled. For continuous crack isolation, cover the entire substrate with RedGuard® applied at a rate of 100 sq. ft. per gallon. To meet the requirements of ANSI A118.12, apply two coats of RedGuard at a rate of 50 sq. ft. per gallon each coat.

### RedGuard® as General Waterproof Membrane (ANSI 118.10)

Cracks to 1/8" (3 mm) should be prefilled before beginning the waterproofing application. Lightly dampen all porous surfaces. Use a 3/4" (19 mm) rough textured synthetic roller or a 3/16"-1/4" (56 mm) V-notch trowel and heavily precoat the corners and the intersections where the floors and walls meet, extending 6" (15 cm) on either side. For extra protection, embed a 6" (15 cm) wide fiberglass mesh into the membrane for changes of plane and for gaps 1/8" (3 mm) or greater. Apply RedGuard at a rate of 110 sq ft per gallon each coat. If using a trowel, spread the material with the trowel held at a 45° angle, and then flattens the ridges. If using a roller, apply a continuous, even film with overlapping strokes. An airless sprayer may be used for the waterproofing application. The sprayer must produce between 1900 - 2300 psi, with a flow rate of 1.0 - 1.5 GPM and must have a tip orifice size of 0.025 - 0.029. Apply a continuous film with overlapping spray. The membrane appearance is pink when wet and dries to a dark red color. It typically takes 1-1.5 hours to turn completely red. After the first coat turns red, inspect the film for integrity and fill any voids or pinholes with additional material. Apply a second coat at right angles to the first coat. To meet the requirements of IAMPO, Two coats should be applied at a rate of 80 sq. ft. per gallon each coat. In all cases the wetfilm thickness should not exceed 125 mils.

## Curing of Product

RedGuard® is dry when it turns solid red, with no visible pink color. Typically, drying time is 1-1.5 hours; depending on ambient conditions, drying time can be as much as 12 hours. After the second coat is applied and both coats are fully cured, the application area can be flood tested

## Protection

If tile or stone will not be set immediately after curing, protect the membrane from rain, inclement weather and potential construction traffic damage. If delays longer than 72 hours are expected, cover and protect the membrane from extended direct sunlight (UV exposure). Care should be taken to prevent the application from becoming soiled or punctured during and after application.

## Tile and Stone Installation

Install tile or stone with a Custom® Building Products polymer-modified mortar that meets ANSI A118.4 or A118.15 standards based on application requirements.

## Cleaning of equipment

Clean tools and hands with water before the material dries. Clean all spray equipment immediately after use.

## Health Precautions

**IMPORTANT: Read carefully before using. WEAR IMPERVIOUS GLOVES, such as nitrile, and eye protection.**



# CUSTOM®



# RedGard® Waterproofing and Crack Prevention Membrane

**WARNING: EYE & SKIN IRRITANT.** May be harmful if swallowed. Do not mix with other chemical products. Avoid contact with eyes and prolonged contact with skin. Do not breathe in vapors. Do not take internally. Immediately wash contaminated body and clothing thoroughly. Use in well-ventilated areas. Wear a NIOSH compliant vapor respirator, especially in poorly ventilated areas. If eye or skin contact occurs: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately seek medical advice or attention if symptoms are significant or persist. In Emergency: 1-800-535-5053. **Contains: Styrene-butadiene polymer, limestone, and ammonium hydroxide.** Before handling read Safety Data Sheet at [www.custombuildingproducts.com](http://www.custombuildingproducts.com).

RedGard® SpeedCoat® Waterproofing Membrane

**KEEP OUT OF REACH OF CHILDREN.**



**WARNING:** This product can expose you to chemicals including crystalline silica, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Conformance to Building Codes

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

## 6 Availability & Cost

| Location | Item Code | Size                | Color | Package |
|----------|-----------|---------------------|-------|---------|
| USA      | LQWAF1    | 1 gallon (3.78 L)   | Pink  | Pail    |
| USA      | LQWAF3    | 3.5 gallon (13.2 L) | Pink  | Pail    |
| Canada   | CLLQWAF1  | 1 gallon (3.78 L)   | Pink  | Pail    |
| Canada   | CLLQWAF3  | 3.5 gallon (13.2 L) | Pink  | Pail    |

## 7 Product Warranty

Obtain the applicable **LIMITED PRODUCT WARRANTY** at [www.custombuildingproducts.com/product-warranty](http://www.custombuildingproducts.com/product-warranty) or send a written request to Custom Building Products, Inc., Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of Custom Building Products, Inc. © 2017 Quikrete International, Inc.

When RedGard® Waterproofing and Crack Prevention Membrane is used as a part of a qualifying full installation system of CUSTOM products, the installation can qualify for up to a lifetime system warranty. CUSTOM will repair and/or replace, at its discretion, the affected area of the system. For more information, find details and limitations to this warranty at [custombuildingproducts.com](http://custombuildingproducts.com).

## 8 Product Maintenance

Properly installed product requires no special maintenance. Do not use as a wear surface.

## 9 Technical Services Information

For technical assistance, contact Custom technical services at 800-272-8786 or visit [custombuildingproducts.com](http://custombuildingproducts.com).

## 10 Filing System

Additional product information is available from the manufacturer upon request.

## Related Products

Waterproofing and Anti-Fracture Membrane Mesh  
Published Date: 4/5/2021



**CUSTOM®**

## RedGuard® Waterproofing and Crack Prevention Membrane

### Coverage

| Size   | Coverage              |
|--|-----------------------|
| RedGuard as Crack Prevention Membrane:                     |                       |
| 1 Gallon (3.78 L)  | 100 sq. ft. (9.3 M2)  |
| 3.5 Gallon (13.2 L)  | 350 sq. ft. (32.5 M2) |
| RedGuard as Crack Prevention Membrane meeting ANSI A118.12 |                       |
| 1 Gallon (3.78 L)  | 25 sq. ft. (2.3 M2)   |
| 3.5 Gallon (13.2 L)  | 88 sq. ft. (8.2 M M2) |
| RedGuard as Waterproof Membrane:                           |                       |
| 1 Gallon (3.78 L)  | 55 sq. ft. (5.1 M2)   |
| 3.5 Gallon (13.2 L)  | 192 sq. ft. (17.8 M2) |
| RedGuard as IAPMO Pan Liner meeting ANSI A118.10:          |                       |
| 1 Gallon (3.78 L)  | 40 sq. ft. (3.7 M2)   |
| 3.5 Gallon (13.2 L)  | 140 sq. ft. (13 M2)   |

Chart for estimating purposes. Coverage may vary based on installation practices and jobsite conditions.





# ATTACHMENT 24

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# ATTACHMENT 24



5/14/2021



# ATTACHMENT 24



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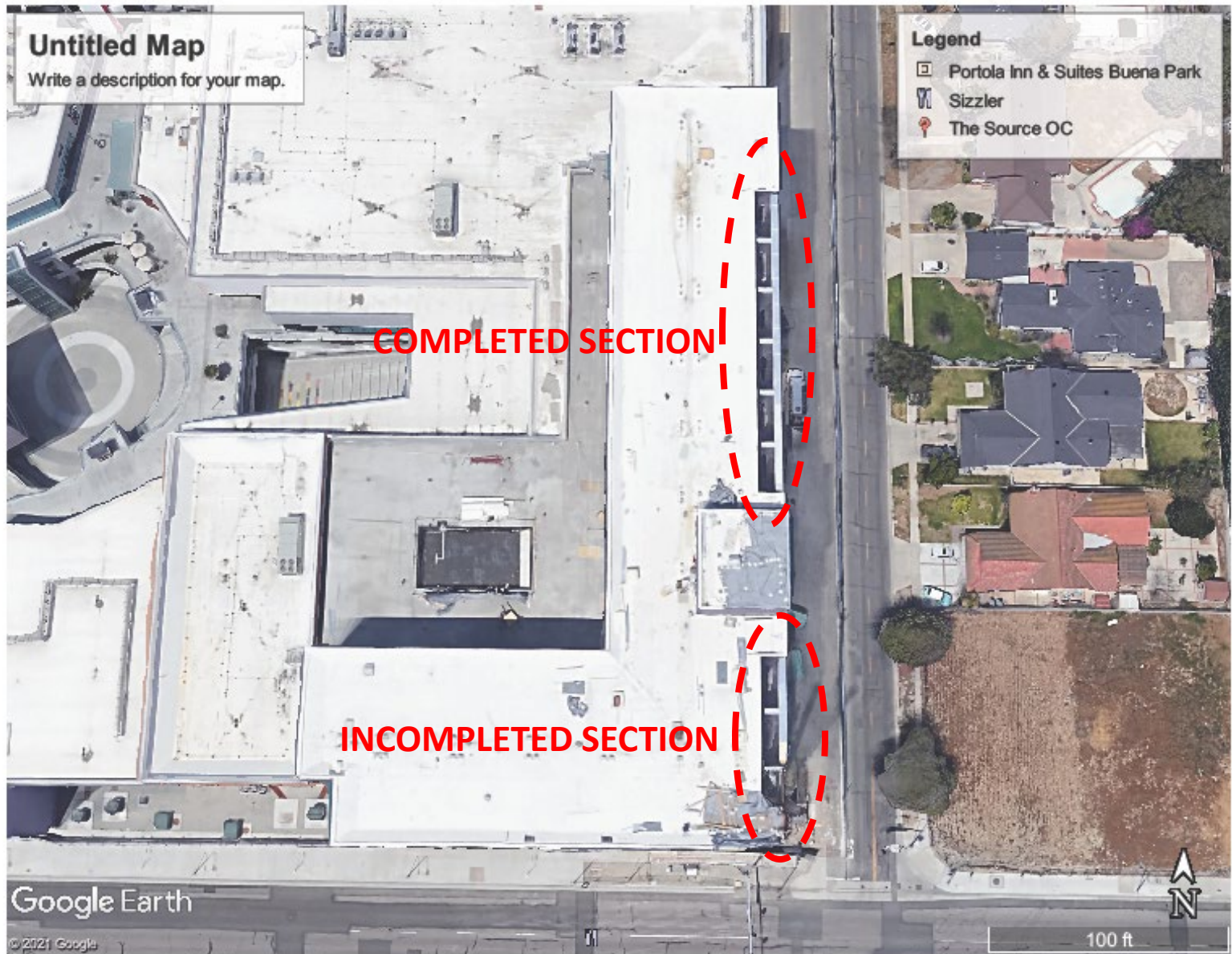
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INCOMPLETE  
SECTION